

CONCLUSION REPORT

Date: 6th April 2016

Client	Trial conducted by	Partner
Tokyo Cement Power (Lanka) Ltd. (TCPLL), Mahiyanganaya, Sri Lanka	Abhitech Energycon Ltd (AEL), Mumbai, India	George Steuart Solutions Pvt. Ltd. (GSSPL), Sri Lanka.

GSSPL received confirmation from TCPLL dated 6th April 2016 for 750 kgs to conduct a performance evaluation trial of THERMACT-BIOsp, multifunctional combustion catalyst for on their 30 TPH, THERMAL System make, Water-Tube, 4 Pass, Waste Heat Recovery, Wood chips fired Boiler.

Accordingly, following meetings were held between the TCPLL, AEL & GSSPL officials;

On 10/03/2016	:	Action Plan discussed and signed
On 26/03/2016	:	Pre-MOM discussed and signed

For, Tokyo Cement Power (Lanka) Ltd.	For, George Steuart Solutions Pvt. Ltd.
Mr E Kugapriya - General Manager (Power & Renewable Energy)	Mr Mark Vithanage - Technical Sale Executive
Mr Ashoka Perera – Manager (Power Plant)	
Mr Ranjith Bandara – Administration Manager	For, Abhitech Energycon Limited
	Mr Anil Bhalshankar – Sr. Manager Technical
	Mr Sanjeev Walde – Sr Manager Technical

The trial methodology was discussed, finalized and the following parameters will be monitored for the final outcome of the trial.


- **Reduction in Specific Fuel Consumption (kg/kWh)**
- **Improvement in Evaporation Ratio**
- **Improvement in Boiler Efficiency by Direct Method.**

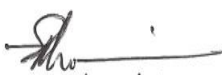
➤ The summary of the trial is tabulated below:




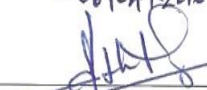
Particulars	Units	Pre Trial	Post Trial	% Difference	Remarks
		Without THERMACT	With THERMACT		
Power Generation / Day	MW	126.24	129.70		Improvement
Steam Generation / Day	Ton	592	601		
Enthalpy of Steam	Kcal/Kg	807.27	807.54		
Enthalpy of Feed Water	Kcal/Kg	118.73	118.16		
Biomass Fuel Consumption /Day	Ton	210.96	195.88	15.08	Reduction
No. of Pusher Counter / Day	Number	1037	1017		Reduction
Weighted Avg. Moisture	%	36.93	36.20		
GCV of Biomass fuel	Kcal/Kg	2774	2807		
Evaporation Ratio		2.81	3.07	9.253	Improvement
Boiler Efficiency by Direct Method.	%	69.60	75.42	8.362	Improvement
Gross Unit Heat Rate –GUHR	Kcal/Kg	4637	4239	398	Reduction
Specific Fuel Consumption	Kg/kWh	1.671	1.510	9.635	Improvement

- Pre-trial (without THERMACT dosing) was conducted from 20th March 2016 to 24th March 2016 for 04 days. Reading for the 22nd was not considered for calculation as the Fuel measurement was not available.
- The Average Pre trial detailed readings are as per Annexure I.
- Samples of DRY & WET Wood chips will be collected from yard, for the analysis of Moisture daily basis.
- THERMACT-BIOsp will be dosed in the ratio of 1:10000 on v/v basis i.e. 1 kg of THERMACT-BIOsp will be dosed with 10000 kg of Wood chips.
- THERMACT-BIOsp will be added from the Top of the Fuel Conveyer belt before Furnace, with the help of Vibro-Feeder assembly.
- **Post-trial** (with THERMACT dosing) was started on 26th March 2016 and the commenced from 29th March 2016 to 6th April 2016 for 7 days. Reading for the 3rd was not considered for calculation as the Fuel measurement was not available.
- The Average Post trial detailed readings are as per Annexure II.
- All the procedures done during Pre-trial period was followed during the Post-trial period.
- Abnormal readings were not considered for calculation purpose.
- % Improvement in Specific Fuel Consumption will be calculated by the formula:

$$\% \text{ Improvement} = \frac{\text{Post Specific Fuel Consumption} - \text{Pre Specific Fuel Consumption}}{\text{Pre Specific Fuel Consumption}} \times 100$$


Ashika Parra (PM)


08/04/16

 (AEL)
06/04/16 (Hemant Mohite)
 (Anil Bhaskar)
06/04/2016
 (Sanjeev Walde)
06/04/2016
 Mark V. J.
(ASS PL)